1.9.3

ADDENDUM TO APPENDIX A
COMPLIANCE MONITORING PLAN

2005 SAMPLING PLAN
April 2005

The following provides Asarco's proposed revisions to the Compliance Monitoring Plan, Appendix A to the Everett Smelter Site Final Design Report. The proposed revisions are for the remaining performance monitoring in the Fenced Area. The current sampling strategy for the Fenced Area is as follows:

PHASE	SOIL REMOVAL	SAMPLE TYPE	FREQUENCY	ANALYSIS
1A	arsenic <3,000 mg/Kg	composite	per FCAP, Zone A	lab or field XRF
1B	3' below Phase 1A	composite	per FCAP, Zone A	lab or field XRF
2	arsenic <150 mg/Kg	composite and discrete	per FCAP, Zone A	lab XRF
3	after final cut and fill (6" intervals up to 4' below anticipated final grade)	discrete	bore hole every 2,500 square feet	lab XRF

In 2004, Phases 1A and 1B were completed for the entire Fenced Area. In addition, Phase 2 sampling was completed for several decision units (see attached Figure 1).

The proposed sampling strategy revisions affect remaining Phase 2 sampling at some units and all of Phase 3 sampling. The proposed revisions are based on the change in the soil removal procedure. In response to a request from the Everett Housing Authority, Asarco is preparing a plan to remove soil from the area outside the red line (see attached Figure 1) to depths that indicate arsenic concentrations less than 20 mg/Kg. The soil that is removed to achieve this remediation level (soil with arsenic concentrations between 20 and 150 mg/Kg) will be placed in compacted one-foot lifts in the consolidation area (the area inside the red line). Soil placed in this area will remain at least two feet below the anticipated final grade in order to allow for a minimum of two feet of clean backfill to be imported.

Phase 2 Sample Collection Strategy

For Phase 2 sampling in the area outside the red line, all remaining units that have not had Phase 2 sampling performed will continue to have soil removed to a depth that indicates arsenic concentrations less than 150 mg/Kg. The field XRF will be utilized to

document the concentrations at each identified sampling location (essentially discrete samples). All removed soil that is greater than 150 mg/Kg will be transported to the Tacoma Smelter Site for disposal.

For Phase 2 sampling in the area within the red line, no changes from the original plan are proposed. This will include the collection of composite and discrete samples at a frequency identified by the FCAP, Zone A. Composite samples will be collected and analyzed with the laboratory XRF. All removed soil that is greater than 150 mg/Kg will be transported to the Tacoma Smelter Site for disposal. Discrete samples will be analyzed with the laboratory XRF if the composite result is less than 150 mg/Kg and greater than its respective As_{comp} as shown in the following table. Note that the largest decision unit in this area is 3,528 square feet.

DU Size (square feet)	No. of Samples	As_{comp} (mg/Kg)
0 – 1125	5	106
1125 – 1350	6	89
1350 – 1575	7	77
1575 – 1800	8	69
1800 – 2025	9	62
2025- 2250	10	56
2250 – 4000	10	56

Phase 3 Sample Collection Strategy

For Phase 3 sampling, the entire strategy will change. There will be two types of Phase 3 sampling. One for the area outside the red line as shown on the attached Figure 1 (Phase 3A) where the remediation level will be 20 mg/Kg arsenic, and one for the area within the red line (Phase 3B) where the remediation level will remain at 150 mg/Kg.

Phase 3A

The sample collection strategy for Phase 3A will be the same as the original Phase 2 sampling strategy. This will include the collection of composite and discrete samples at a frequency identified by the FCAP, Zone A. Composite samples will be analyzed using the laboratory XRF. If needed, a device with a split spoon sampler may be utilized for collecting floor samples should personnel be unable to collect samples with a hand auger. Discrete samples will be analyzed with the laboratory XRF if the composite result is less than 20 mg/Kg and greater than its respective As_{comp} as shown in the following table. Note that the largest decision unit in this area is 4,339 square feet.

DU Size (square feet)	No. of Samples	As_{comp} (mg/Kg)
0 – 1125	5	14
1125 – 1350	6	13
1350 – 1575	7	12

1575 – 1800	8	11
1800 – 2025	9	11
2025- 2250	10	10
2250 – 4000	10	10
4000 – 4400	11	10

The sample designation for floor samples will contain the project location (IAFA for interim action in the Fenced Area), sampling phase, sample area (F for floor), decision unit, sample type (D for discrete and C for composite), and round of soil removal. For example, the first floor composite sample collected from decision unit US1 will be "IAFA-P3A-F-US1-C-1". Field duplicates will have a "D" added to the end of the sample identification and splits, if any, will have an "S" added to the end of the sample identification. Discrete samples will also have the sample location identified after the sample type. For example, the same sample collected from the first location will be "IAFA-P3A-F-US1-D-L1-1".

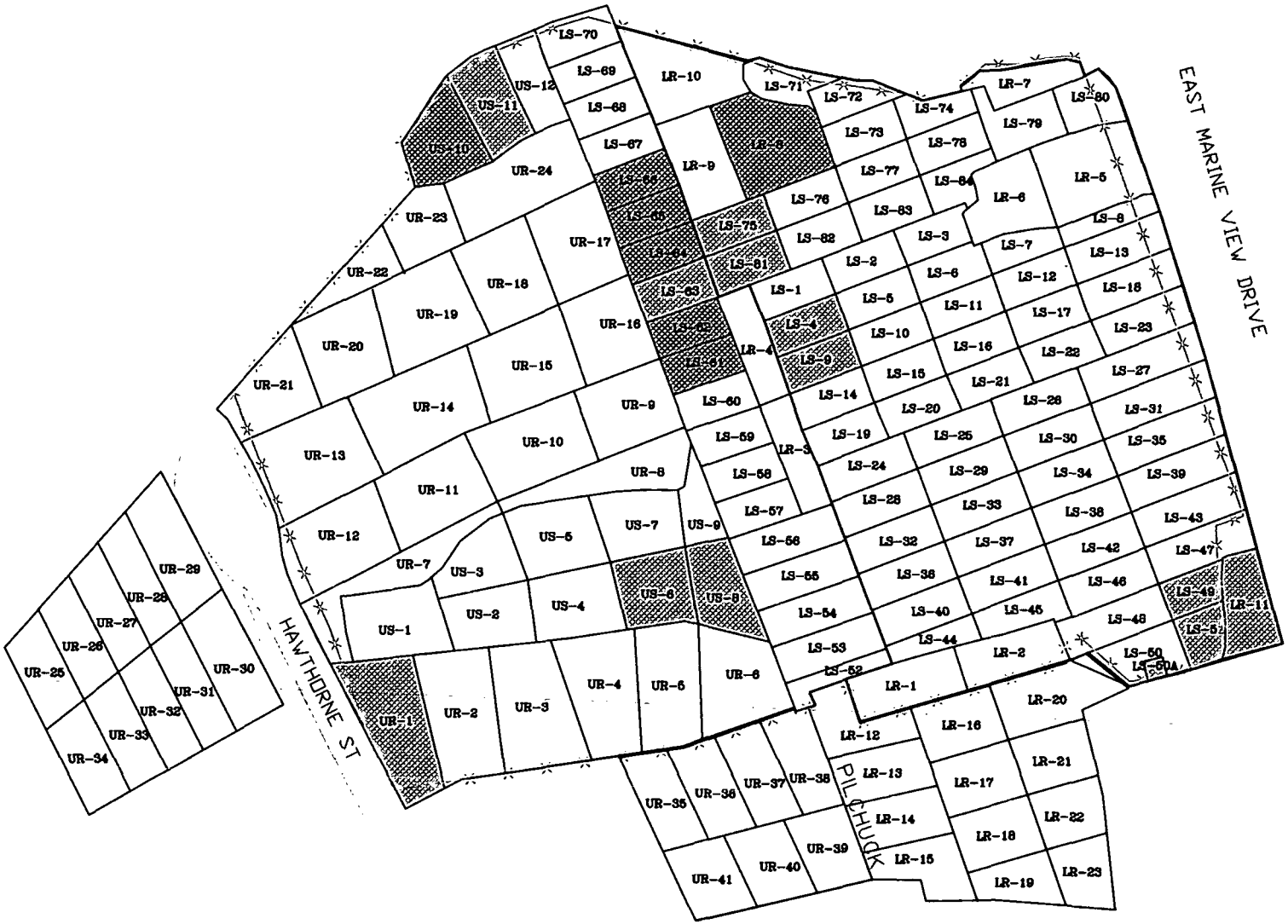
The sample designation for perimeter samples will contain the project location (IAFA for interim action in the Fenced Area), sampling phase, sample area (P for perimeter), decision unit, sample type (D for discrete and C for composite), depth (A=surface, B=2', C=4', etc.), and round of soil removal. For example, the perimeter surface composite sample collected at decision unit US1 will be "IAFA-P3A-P-US1-C-A-1". Field duplicates will have a "D" added to the end of the sample identification and splits, if any, will have an "S" added to the end of the sample identification. Discrete samples will also have the sample location identified after the sample type. For example, the same sample collected from the first location will be "IAFA-P3A-P-US1-D-L1-A-1".

Phase 3B

Phase 3B will be for the area within the red line as shown on Figure 1. As described earlier, soil will be placed in one-foot deep compacted lifts. Each compacted lift will be sampled with a 1'deep interval discrete sample every 2,500 square feet. Samples will be analyzed with a field XRF to confirm arsenic concentrations are less than 150 mg/Kg. This strategy will effectively characterize all placed soils to document arsenic concentrations below 150 mg/Kg underneath the 2' thick clean cap. If needed, a device with a split spoon sampler may be utilized should personnel be unable to collect samples with a hand auger. If any sample taken from the compacted lift exceeds 150 mg/kg, the lift will be removed and the soils transported to the Tacoma site for disposal under the site wide cap.

The sample designation for samples will contain the project location (IAFA for interim action in the Fenced Area), sampling phase, compacted lift number (CL), and sample location. For example, the sample collected from the first location, first compacted lift will be "IAFA-P3B-CL1-L1". Field duplicates will have a "D" added to the end of the sample identification and splits, if any, will have an "S".

FIGURE 1



5/2/05

I:Everett Soils\Decision Unit Maps\Sampling Plan for 2005.dwg

LEGEND

INDICATES THE LOWER AREA OF SITE THAT WILL BE EXCAVATED TO <150 PPM ARSENIC. THE UPPER AND NORTHERN LOWER DECISION UNITS LYING OUTSIDE OF THIS LINE WILL BE EXCAVATED TO <20 PPM ARSENIC (CONSOLIDATION AREA).

PHASE 2 COMPLETED IN 2004.

PHASE 2 RESULTS INDICATE <20 PPM ARSENIC.

Asarco Consulting, Inc.

EVERETT SMELTER INTERIM ACTION

2005 SAMPLING PLAN

FIGURE 2

5/2/05

I:Everett Soils\Decision Unit Maps\Soil Removal Quantities.dwg

TOTALS

LOWER AREA (INSIDE CONSOLIDATION AREA):
TO <150: 13,583 CY

UPPER AREA (OUTSIDE CONSOLIDATION AREA):
TO <150: 12,328 CY
TO <20: 13,223 CY

LEGEND

CONSOLIDATION AREA: ——

DECISION UNITS COMPLETED:

Asarco Consulting, Inc.

EVERETT SMELTER INTERIM ACTION

2005 SOIL REMOVAL QUANTITIES